



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,455	04/20/2006	Hans-Werner Boettcher	20794/0204878-US0	2425
7278	7590	09/19/2008		
DARBY & DARBY P.C. P.O. BOX 770 Church Street Station New York, NY 10008-0770			EXAMINER LU, JIPING	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 09/19/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,455

Applicant(s)

BOETTCHER ET AL.

Examiner

Jiping Lu

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 6-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 7/18/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 6-7 are rejected 35 U.S.C. 103(a) as being unpatentable over Freze (U.S. Pat. 4,268,247) in view of Schregenberger (U. S. Pat. 4,326,342).

Freze shows a method and an apparatus for drying laundry comprising a drying chamber 14, a process air circuit 14, 16, 20, 26, 14 including a fresh air supply passageway 39 and exhaust air discharge passageway 38, a heater 36 disposed in the process air circuit, a blower 18 disposed in the process air circuit and configured to convey drying air through the drying chamber 14, a flow dividing device 30, 31 disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 38 and a recirculation air component 70, 26 which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper 31 configured to completely or partially close an air path of the recirculated air component. However, Freze does not show a pressure sensor and a program control module for controlling the shut-off damper based on measured pressure profile in an air stream of the process air circuit in an area where the drying air enters the drying chamber. Schregenberger teaches a concept of using a pressure sensor measuring the pressure in a gas stream 13 where the gas enters the chamber 8 and controlling the shut-off damper 26 by a program control module 25 to completely or partially close the gas path of the recirculated gas based on the measured pressure (col. 4, lines 5-17). Therefore, it would have been obvious to

one having ordinary skill in the art at the time the invention was made to modify the laundry drying method and apparatus of Freze to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Schregenberger in order to balance operation of the dryer by maintaining a constant and desired flow rate of the drying gas to the dryer chamber to correspondingly maintain the temperature of the drying gas within the dryer at a desired level. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to one having ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007). With regard to claim 7, the heater power will be inherently reduced and affected by variation of incoming fresh make up air 84 or outgoing hot exhaust air 38 or speed of blowers 40, 18.

3. Claims 6-7 are rejected 35 U.S.C. 103(a) as being unpatentable over Haried (U.S. Pat. 4,549,362) in view of Schregenberger (U. S. Pat. 4,326,342).

Haried shows a method and an apparatus for drying laundry comprising a program control module 50, a drying chamber 10, a process air circuit 10, 12, 22, 38, 10 including a fresh air supply passageway 32 and exhaust air discharge passageway 30, a heater 40 disposed in the process air circuit, a blower 14 disposed in the process air circuit and configured to convey drying air through the drying chamber 10, a flow dividing device 37 disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 30 and a recirculation air component 38 which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper 37 configured to completely or partially close an

air path 38 of the recirculated air component. However, Haried does not show a pressure sensor and a program control module for controlling the shut-off damper based on measured pressure profile in an air stream of the process air circuit in an area where the drying air enters the drying chamber. Schregenberger teaches a concept of using a pressure sensor measuring the pressure in a gas stream 13 where the gas enters the chamber 8 and controlling the shut-off damper 26 by a program control module 25 to completely or partially close the gas path of the recirculated gas based on the measured pressure (col. 4, lines 5-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the laundry drying method and apparatus of Haried to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Schregenberger in order to in order to balance operation of the dryer by maintaining a constant and desired flow rate of the drying gas to the dryer chamber to correspondingly maintain the temperature of the drying gas within the dryer at a desired level. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to on ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007)). With regard to claim 7, the heater power will be inherently reduced and affected by variation of incoming fresh make up air 84 or outgoing hot exhaust air 38 or speed of blowers 40, 18.

4. Claims 6-7 are rejected 35 U.S.C. 103(a) as being unpatentable over Heissmeeier (DE 2220425) in view of Schregenberger (U. S. Pat. 4,326,342).

Heissmееier shows a method and an apparatus for drying laundry comprising a drying chamber 7, a process air circuit 7,5,8,7 including a fresh air supply passageway (not numbered, see Figure) and exhaust air discharge passageway 11, a heater 2 disposed in the process air circuit, a blower 3 disposed in the process air circuit and configured to convey drying air through the drying chamber 7, a flow dividing device (not numbered, see figure) disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 11 and a recirculation air component which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper (see figure) configured to completely or partially close an air path 11 of the recirculated air component. However, Heissmееier does not show a pressure sensor and a program control module for controlling the shut-off damper based on measured pressure profile in an air stream of the process air circuit in an area where the drying air enters the drying chamber. Schregenberger teaches a concept of using a pressure sensor measuring the pressure in a gas stream 13 where the gas enters the chamber 8 and controlling the shut-off damper 26 by a program control module 25 to completely or partially close the gas path of the recirculated gas based on the measured pressure (col. 4, lines 5-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the laundry drying method and apparatus of Heissmееier to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Schregenberger in order to in order to balance operation of the dryer by maintaining a constant and desired flow rate of the drying gas to the dryer chamber to correspondingly maintain the temperature of the drying gas within the dryer at a desired level. All the claimed elements were known in the prior art and one skilled in the art could have

combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to on ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007). With regard to claim 7, the heater power will be inherently reduced and affected by variation of incoming fresh make up air 84 or outgoing hot exhaust air 38 or speed of blowers 40, 18.

5. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freze (U.S. Pat. 4,268,247) in view of Weimer et al. (U. S. Pat. 3,538,614).

Freze shows a method and an apparatus for drying laundry comprising a drying chamber 14, a process air circuit 14, 16, 20, 26, 14 including a fresh air supply passageway 39 and exhaust air discharge passageway 38, a heater 36 disposed in the process air circuit, a blower 18 disposed in the process air circuit and configured to convey drying air through the drying chamber 14, a flow dividing device 30, 31 disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 38 and a recirculation air component 70, 26 which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper 31 configured to completely or partially close an air path of the recirculated air component. However, Freze does not show a pressure sensor and a program control module for controlling the shut-off damper based on measured pressure profile of the drying chamber. Weimer et al. teaches a concept of using a pressure sensor 58 measuring the pressure in the drying chamber in an area where the drying air enters the drying chamber 12 and controlling the shut-off damper 48 by a program control module 54 to completely or partially close the gas path of the recirculated gas based on the measured pressure same as claimed.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the laundry drying method and apparatus of Freze to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Weimer et al. in order to control the drying air flow and to maintain a uniformly dried product. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc., 82 USPQ 2d 1385 (2007)). With regard to claim 7, the heater power will be inherently reduced and affected by variation of incoming fresh make up air 84 or outgoing hot exhaust air 38 or speed of blowers 40, 18.

6. Claims 6-10 are rejected 35 U.S.C. 103(a) as being unpatentable over Haried (U.S. Pat. 4,549,362) in view of Weimer et al. (U. S. Pat. 3,538,614).

Haried shows a method and an apparatus for drying laundry comprising a program control module 50, a drying chamber 10, a process air circuit 10, 12, 22, 38, 10 including a fresh air supply passageway 32 and exhaust air discharge passageway 30, a heater 40 disposed in the process air circuit, a blower 14 disposed in the process air circuit and configured to convey drying air through the drying chamber 10, a flow dividing device 37 disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 30 and a recirculation air component 38 which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper 37 configured to completely or partially close an air path 38 of the recirculated air component. However, Haried does not show a pressure sensor

and a program control module for controlling the shut-off damper based on measured pressure profile of the drying chamber. Weimer et al. teaches a concept of using a pressure sensor 58 measuring the pressure in the drying chamber in an area where the drying air enters the drying chamber 12 and controlling the shut-off damper 48 by a program control module 54 to completely or partially close the gas path of the recirculated gas based on the measured pressure same as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the laundry drying method and apparatus of Haried to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Weimer et al. in order to control the drying air flow and to maintain a uniformly dried product. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to on ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007). With regard to claim 7, the heater power will be inherently reduced and affected by variation of incoming fresh make up air 84 or outgoing hot exhaust air 38 or speed of blowers 40, 18.

7. Claims 6-10 are rejected 35 U.S.C. 103(a) as being unpatentable over Heissmeeier (DE 2220425) in view of Weimer et al. (U. S. Pat. 3,538,614).

Heissmeeier shows a method and an apparatus for drying laundry comprising a drying chamber 7, a process air circuit 7,5,8,7 including a fresh air supply passageway (not numbered, see Figure) and exhaust air discharge passageway 11, a heater 2 disposed in the process air circuit, a blower 3 disposed in the process air circuit and configured to convey drying air through

the drying chamber 7, a flow dividing device (not numbered, see figure) disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 11 and a recirculation air component which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper (see figure) configured to completely or partially close an air path 11 of the recirculated air component. However, Heissmeeier does not show a pressure sensor and a program control module for controlling the shut-off damper based on measured pressure profile of the drying chamber. Weimer et al. teaches a concept of using a pressure sensor 58 measuring the pressure in the drying chamber in an area where the drying air enters the drying chamber 12 and controlling the shut-off damper 48 by a program control module 54 to completely or partially close the gas path of the recirculated gas based on the measured pressure same as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the laundry drying method and apparatus of Heissmeeier to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Weimer et al. in order to control the drying air flow and to maintain a uniformly dried product. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to on ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007)). With regard to claim 7, the heater power will be inherently reduced and affected by variation of incoming fresh make up air 84 or outgoing hot exhaust air 38 or speed of blowers 40, 18.

Response to Arguments

8. Applicant's arguments filed 7/18/08 have been fully considered but they are not persuasive. First, claims fail to define over the prior art references. Second, on pages 5-6 of the Remarks, the applicant argues that the prior art references, patents to Freze, Schregenberger, Haried, Heissmееier and Weimar, fail to teach or suggest the method including "controlling the flow dividing device ... to continue a drying process at a reduced volumetric flow rate of the drying air through the drying changer". It is noted that no such limitation is found in the claim 8. However, Freze does show a step of "controlling the flow dividing device 27, 30, 31 disposed in the process air circuit ... to continue a drying process at a reduced volumetric flow rate of the drying air through the drying chamber 14" based on the evaluation, e.g. air pressure, air flow, system on/off, so that the recirculated air component and to continue a drying process. Moreover, the Schregenberger patent clearly teaches a concept of using a pressure sensor measuring the pressure in a gas stream 13 where the gas enters the chamber 8 and controlling the shut-off damper 26 by a program control module 25 to completely or partially close the gas path of the recirculated gas based on the measured pressure (col. 4, lines 5-17). Therefore, it would have been obvious to one skilled in the art to modify the laundry drying method and apparatus of Freze to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Schregenberger in order to balance operation of the dryer by maintaining a constant and desired flow rate of the drying gas to the dryer chamber to correspondingly maintain the temperature of the drying gas within the dryer at a desired level. Third, on pages 6-7 of the Remarks, the applicant argues that there is no teaching in the prior art references that would suggest what claim 8 calls for. The examiner does not agree. Freze patent

Art Unit: 3749

shows a method and an apparatus for drying laundry comprising a drying chamber 14, a process air circuit 14, 16, 20, 26, 14 including a fresh air supply passageway 39 and exhaust air discharge passageway 38, a heater 36 disposed in the process air circuit, a blower 18 disposed in the process air circuit and configured to convey drying air through the drying chamber 14, a flow dividing device 30, 31 disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 38 and a recirculation air component 70, 26 which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper 31 configured to completely or partially close an air path of the recirculated air component. The patent to Weimer et al. teaches a concept of using a pressure sensor 58 measuring the pressure in the drying chamber in an area where the drying air enters the drying chamber 12 and controlling the shut-off damper 48 by a program control module 54 to completely or partially close the gas path of the recirculated gas based on the measured pressure same as claimed. Therefore, it is the examiner's position that it would have been obvious to one skilled in the art to modify the laundry drying method and apparatus of Freze to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Weimer et al. in order to control the drying air flow and to maintain a uniformly dried product. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by know method or means with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007)). With regard to the Haried patent and Weimer patent, Haried also shows a method and an apparatus for drying laundry comprising a program control module 50, a

drying chamber 10, a process air circuit 10, 12, 22, 38, 10 including a fresh air supply passageway 32 and exhaust air discharge passageway 30, a heater 40 disposed in the process air circuit, a blower 14 disposed in the process air circuit and configured to convey drying air through the drying chamber 10, a flow dividing device 37 disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 30 and a recirculation air component 38 which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper 37 configured to completely or partially close an air path 38 of the recirculated air component. Therefore, in view of the teaching of Weimer et al. it would have been obvious to one skilled in the art to modify the laundry drying method and apparatus of Haried to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Weimer et al. in order to control the drying air flow and to maintain a uniformly dried product. With regard to Heissmееier patent, the patent shows a method and an apparatus for drying laundry comprising a drying chamber 7, a process air circuit 7,5,8,7 including a fresh air supply passageway (not numbered, see Figure) and exhaust air discharge passageway 11, a heater 2 disposed in the process air circuit, a blower 3 disposed in the process air circuit and configured to convey drying air through the drying chamber 7, a flow dividing device (not numbered, see figure) disposed in the process air circuit and configured to controllably divide a flow of the drying air into an exhaust air 11 and a recirculation air component which are arranged in the same manner as broadly claimed. The flow dividing device includes a shut off damper (see figure) configured to completely or partially close an air path 11 of the recirculated air component. In view of the teaching of Weimer et al, it would have been obvious to one skilled in the art to modify the laundry drying method and

apparatus of Heissmeyer to include a pressure sensor and a program control module for controlling the damper based on the measured pressure as taught by Weimer et al. in order to control the drying air flow and to maintain a uniformly dried product.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEVEN B. MCALLISTER can be reached on 571 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jiping Lu/
Primary Examiner
Art Unit 3749

J. L.